

## REMARKS

This paper is being provided in response to the Office Action dated July 16, 2007, received for the above-referenced application. Applicants respectfully request consideration of the following remarks.

The rejection of claims 10-14 under 35 U.S.C. 101 as being directed to non-statutory subject matter is hereby traversed. The Office Action indicates that "computer software stored in a computer readable medium" is interpreted as including non-statutory embodiments, such as paper. This interpretation is inconsistent with the guidelines set forth in the MPEP 2106(IV)(B)(1), which states as follows:

[F]unctional descriptive material "consists of data structures and computer programs which impart functionality when encoded on a computer-readable medium. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).)...When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases.

Applicants submit that the clear language of the feature "computer software stored in a computer readable medium" indicates a functional interrelationship of the computer software with the computer readable medium on which it is stored, which does not include "paper." As noted above, the functional relationship of computer software stored in a computer-readable medium as being statutory subject matter is consistent with the MPEP guidelines on this matter. As discussed below, Applicants have disclosed in the specification internal computer memory

that contains tasks to be performed by the units of the storage device and is functionally interrelated with the computer storage device. Applicants submit that the rejection under 35 U.S.C. 101 be reconsidered and withdrawn.

The Office Action states that the specification discloses memory/register to support the functionalities of the current invention, but suggests that the specification does not disclose memory used to retrieve data to perform other functionalities. To the extent that the Office Action suggests this, Applicants traverse. The specification supports the use of computer software stored in memory for performing the described functions. Applicants point out, for example, on page 13, lines 8-15 and Figure 1 which discloses: "The memory 26 may contain tasks that are to be performed by one or more of the DA's 38a-38c, the HA's 28a-28c and the RA's 32a-32c and a cache for data fetched from one or more of the disks 36a-36c. Use of the memory 26 is described in more detail hereinafter." Applicants disclose computer-readable mediums for storing instructions to be performed by the storage device. Furthermore, Applicants describe throughout that software for performing recited steps of the presently-claimed invention interfaces with and runs on components on a computer storage device, such as a director (see, for example, page 16, line 16 to page 17, line 7 of the originally-filed specification). Applicants submit that software interfacing and running on the components on described discloses software stored on a computer-readable medium to perform the functionalities as recited by the presently-claimed invention, and that Applicants are entitled to claim such software stored on a computer readable medium, as described in the specification, in accordance with the guidelines outlined in the MPEP. Accordingly, Applicants respectfully submit that this rejection should be reconsidered and withdrawn.

The rejection of claims 1-6 and 10-14 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent App. Pub. No. 2004/0205384 to Lai et al. (hereinafter "Lai") in view of U.S. Patent No. 6,052,308 to Pitts (hereinafter "Pitts"), the rejection of claims 7-9 under 35 U.S.C. as being unpatentable over Lai in view of Pitts and further in view of U.S. Patent App. Pub. No. 2005/0160311 to Hartwell, et al. (hereinafter "Hartwell"), and the rejection of claims 15-20 under 35 U.S.C. 103(a) as being unpatentable over Lai in view of Hartwell and further in view of Pitts, are all hereby traversed in view of the prior submission of a Declaration under 37 C.F.R. 1.131, as further detailed below.

The Lai reference is a published U.S. patent application that was filed in the United States on February 18, 2004, and published on October 14, 2004. The present above-captioned patent application to Cartmell, et al. (hereinafter "the present patent application") was filed in the United States on March 29, 2004. Accordingly, the Lai reference is prior art under 35 U.S.C. 102(e).

Applicants has previously submitted a Declaration under 37 C.F.R. 1.131 that has been executed by all the inventors (hereinafter "the 131 Declaration"). As set forth below, the 131 Declaration provides facts sufficient to establish conception of the claimed invention prior to the February 18, 2004, effective date of the Lai reference and establish due diligence by the inventors from a time prior to February 18, 2004, until the invention was constructively reduced to practice by the filing of the present patent application on March 29, 2004. The Office Action

has asserted that the Declaration and Exhibits do not support conception of the claimed invention prior to February 18, 2004. Applicants respectfully traverse this conclusion, as discussed below.

Applicants respectfully submit that the revised 131 Declaration establishes conception of the invention as required under 37 C.F.R. 1.131. Applicants note that a 131 Declaration must be considered for the facts it contains in the declaration itself and in the exhibits. This is supported by MPEP 715.07(I) which contains explicit statements reflecting the decision of the Board of Patent Appeals and Interferences in *Ex parte Ovshinsky* 10 USPQ2d 1075 (Bd. Pat. App. & Inter. 1989). In *Ovshinsky*, the Board specifically states the following:

We point out to the examiner that (1) all the evidence must be considered in its entirety, including the Rule 131 declarations and accompanying exhibits, records and "notes", (2) an accompanying exhibit need not support all of the claimed limitations but rather a missing feature may be supplied by *the declaration itself*...and (3) it is entirely appropriate for appellants to rely on a showing of facts set forth in the *Rule 131 declarations themselves* to establish conception of the invention prior to the effective date of the reference. (emphasis added)

With respect to establishing conception of the presently-claimed invention, Applicants refer to the 131 Declaration and particularly paragraphs (4), (5), (6), (8), (10) and Exhibit A. In these paragraphs, the inventors specifically assert facts surrounding the conception of the features of the presently-claimed invention. The inventors assert that before February 18, 2004, they developed all of the features of the claimed invention that are included in independent claims 1, 10 and 15. In support thereof, the inventors state that before February 18, 2004, they prepared and presented an internal EMC Corporation document that is included as Exhibit A in the 131 Declaration, and they direct specific attention to portions of the Exhibit that address hardware implementation, software requirements and limitations, and software design concepts concerning Symm7 Mirrored Memory and explicitly "Mirrored Memory Hardware

Implementation", "6 Different Mirrored Memory System States", "Memory Access Functional Layering" and "Failover and Synchronization State." Applicants also refer to the specific discussion below concerning Exhibit A in relation to the claimed features.

Exhibit A is a copy of a thirty-one page powerpoint-style presentation made by the inventors of the present application at an EMC internal meeting before February 18, 2004. The presentation is entitled "Symm7 Mirrored Memory Conceptual Review." Applicants submit that statements in the declaration itself and exhibits support a method and computer software stored in a computer-readable medium of accessing data memory, including writing data to a first memory location and to a second memory location in response to a request to write data to a memory address that corresponds to both locations, wherein the first and second memory locations are mirrored. (See, for example, the schematic on page 4, showing an implementation of "Mirrored Memory," flow charts on page 11 and 12 entitled, "6 Different Mirrored Memory System States", the discussion of the Failed Memory Detection on page 20 concerning functioning of the Global Memory Access (GMA) layer, and page 16 describing in more detail the GMA layer which is "responsible for maintaining the mirrored memory states" and which tells "the driver to write the data to both location"). In response to a request to read data from the memory address, data is read from the first memory location or the second memory location based on load balancing. (See, for example, the flow diagram on page 14 showing "Memory Access Functional Layering" and functioning of the GMA layer application programming interface (API) and page 18 that specifies that "The GMA layer is where the read load balancing algorithm lives"). Data is accessed from the second memory location in response to a request to access data at the memory address when memory hardware corresponding to the first memory

location has failed. (See, for example, the flow diagram on page 20 showing the functioning of the GMA layer in response to a Failed Memory detection, and page 19 that specifies "The memory failure detection is encapsulated in the GMA layer"). Applicants also note the disclosure in the Exhibit A of a data storage device including disk drives, an internal volatile memory; and directors coupled to the memory, in relation to the above-noted functionalities (see, for example, the "Mirrored Memory Hardware Implementation" of page 4).

Applicants submit that the factual statements by the inventors in the declaration itself concerning the conception of the claimed invention prior to February 18, 2004 (see, for example, paragraphs (4), (5), (6), (8) and (10) of the 131 Declaration) are fully supported and corroborated by the Exhibit A, as seen, for example, by the above-noted mapping of the claim features that are supported by the specific portions of the Exhibit A, and corroborate the factual statements concerning conception of the claimed features contained in the declaration itself.

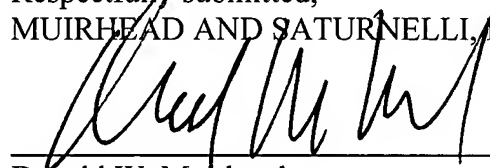
Applicants note that the inventors also assert facts, in paragraphs (7), (8), (9), (10) and corroborated by Exhibit B, that support the conclusion that, after conception, the inventors were reasonably diligent from a time prior to February 18, 2004, until the invention was constructively reduced to practice by filing the present patent application on March 29, 2004.

Accordingly, Applicants submit that conception before February 18, 2004, of all of the presently-claimed features of the invention is supported in the 131 Declaration taking into account the explicit and detailed statements of facts provided by the inventors and the supporting and corroborating evidence provided by Exhibit A, and that the inventors were reasonably

diligent for the necessary time as supported by the statements of facts in the 131 Declaration and supported and corroborated by Exhibit B, as required under 37 C.F.R. 1.131. In view of the above, Applicants submit that the 131 Declaration is sufficient to antedate U.S. Patent App. Pub. No. 2004/0205384 to Lai, et al. filed February 18, 2004. Accordingly, Applicants submit that the Lai reference should be removed as prior art to the presently-claimed invention and that all rejections thereover should be withdrawn.

Based on the above, Applicants respectfully request that the Examiner reconsider and withdraw all outstanding rejections and objections. Favorable consideration and allowance are earnestly solicited. Should there be any questions after reviewing this paper, the Examiner is invited to contact the undersigned at 508-898-8603.

Respectfully submitted,  
MUIRHEAD AND SATURNELLI, LLC

A handwritten signature in black ink, appearing to read 'Donald W. Muirhead', is written over a horizontal line.

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